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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/748,370

12/29/2003

Andrew Nguyen

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8166

7590

06/15/2005

Mimi Diemmy Dao  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
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Los Angeles, CA 90025

EXAMINER

ANYA, IGWE U

ART UNIT

PAPER NUMBER

2891

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/748,370

Applicant(s)

NGUYEN, ANDREW

Examiner

Igwe U. Anya

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25 is/are allowed.
- 6) ☒ Claim(s) 1-24, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: English translation of JP 08-203359.

### **DETAILED ACTION**

1. The indicated allowability of claims 11, 12, and 16 – 18 is withdrawn in view of the subject matter not being distinctly claimed. Rejections follow.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1 – 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "relatively constant" in claims 1, 10, 11, 13, 15 16, and their dependent claims is a relative term, which renders the claim indefinite. The term "relatively constant" is not defined by the claims. The specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 9, 13, 14, 19 – 24, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujii et al. (US Patent 6641670) in view of Kishimura et al. (JP Patent 08-203359).

7. Tsujii et al. teach a method of coating a surface of a substrate with a polymer solution (fig. 1), comprising;

providing the substrate (18) on a substrate station (19);

dispensing the polymer solution onto the surface of the substrate using a coating system having a pump (14) connected in-line with a buffer tank (25) and a polymer solution source (12);

drawing the polymer solution from the polymer solution source and the buffer tank in a continuous fluid path to dispense the polymer solution with the pump;

applying a pressure to the polymer solution source to transfer the polymer solution into the buffer tank (col. 7 lines 60 – 65);

providing a valve between the pressure source and the polymer solution source (see valve attached to solution tank 11 similar to valves 13, 15);

an enable valve (13) is placed between the buffer tank and the pump wherein opening the enable valve allows the polymer solution to flow to the pump (col. 7 lines 60 – 65);

rotating the substrate to spread the polymer solution (col. 1 lines 32 – 42);

evaporating solvent from the polymer solution dispensed on the surface of the substrate to form a polymer layer on the surface of the substrate (col. 8 lines 25 – 28),

wherein the polymer solution is a photoresist solution (col. 1 line 43 & col. 9 lines 55 - 65).

8. Tsujii et al. lack:

maintaining a relatively constant level of polymer solution in the buffer tank; and  
flowing an inert gas into the polymer solution source to create a pressure that  
transfers the polymer solution into the buffer tank via a momentary valve.

9. However, Kishimura et al. teach:

maintaining a relatively constant level of polymer solution in the buffer tank  
(Abstract); and

flowing an inert gas into the polymer solution source to create the pressure to  
transfer the polymer solution into the buffer tank (Abstract) by controlling a momentary  
valve placed between the pressure source and the polymer solution source with excess  
inert gas prevented (paragraphs 7 – 10).

10. Therefore, it would have been obvious to one of ordinary skill in the art at the  
time the invention was made to incorporate the teachings of Kishimura et al. into the  
Tsujii et al. reference to control the thickness of the coating film. Furthermore, regarding  
claims 13, 14, and 19 – 22, it has been held that a recitation with respect to the manner  
in which a claimed apparatus intends to be employed does not differentiate the claimed  
apparatus from a prior art apparatus satisfying the claimed structural limitations. (Ex  
Parte Masham, 2 USPQ F.2d 1647 (1987). Providing a manual means to replace a  
mechanical or automated means involves routine skill in the art.

Art Unit: 2891

11. Claim 25 is allowable, because prior art do not teach inter alia coupling a fluid sensor to the polymer solution source, wherein the sensor is capable of shutting off an enable valve placed between a buffer tank and a pump when the polymer solution level in the polymer solution source is detected to be substantially low or empty.

***Remarks***

12. The examiner has reviewed prior art in light of applicant's comments and amendment and finds it unpersuasive. Kishimura et al. a momentary valve activated in response to the fluid level wherein an inert gas pressurizes the solution source to flow the polymer into the buffer tank (paragraphs 7 –10). An English translation of Kishimura is attached. Office action of February 8, 2005 to read as a non-final action, this information was also transmitted to Attorney on record.

***Contact Information***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igwe U. Anya whose telephone number is (571) 272-1887. The examiner can normally be reached on M - F 8:30am - 5:00pm.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on (571) 272-1722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Igwe U. Anya  
Examiner  
Art Unit 2891

IA

June 3, 2005

A handwritten signature in black ink, appearing to read 'B. William Balmeister', with a stylized, sweeping flourish at the end.

**B. WILLIAM BALMEISTER**  
**SUPERVISORY PATENT EXAMINER**



## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-203359  
 (43)Date of publication of application : 09.08.1996

(51)Int. CI. H01B 13/16  
 B29C 47/02  
 B29C 47/12  
 B29C 47/92  
 H01B 13/00

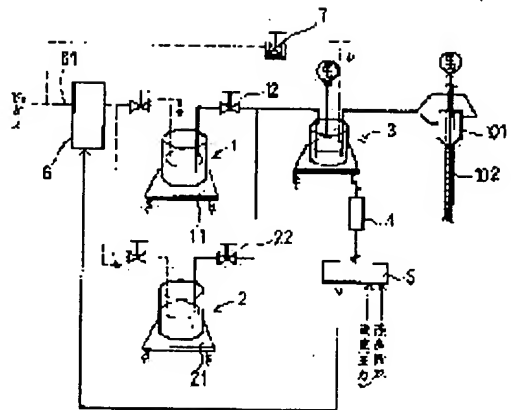
(21)Application number : 07-028741 (71)Applicant : FUJIKURA LTD  
 (22)Date of filing : 25.01.1995 (72)Inventor : KISHIMURA SHIZUKA  
 YANAGISAWA ISAO  
 TOYODA TAKESHI

## (54) PRESSURE DICE DEVICE FOR COVERING LINEAR BODY

## (57)Abstract:

PURPOSE: To provide a linear body covering pressure dice device which can cover a running linear body with a film of resin of constant thickness by controlling the internal pressures of resin tanks to an appropriate state through the detection of resin in a buffer tank in terms of weight.

CONSTITUTION: A weight detector 4 detects a resin in a buffer tank 3 in terms of weight and outputs a detection signal corresponding to the weight to a control portion 5. When the detection signal outputted by the weight detector 4 is input to the control portion 5, the control portion 5 performs predetermined arithmetic on the basis of the detection signal, thereby detects fluctuation in the weight of the resin in the buffer tank 3, and outputs a control signal according to the amount of fluctuation to a solenoid valve 6 provided in the communication line 61 of a pressure tank. The solenoid valve 6 is operated by the control signal according



to the detected weight to automatically adjust the internal pressures of resin tanks 1, 2 to an appropriate value during resin supply. Therefore, a running linear body 102 can be covered with a film of resin of constant thickness, and fluctuation in the thickness of the cover film can be prevented even if the pressure of a dice 101 fluctuates due to switching between the resin tanks 1, 2.

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#### LEGAL STATUS

[Date of request for examination] . 05.12.2001

[Date of sending the examiner's decision  
of rejection]

[Kind of final disposal of application  
other than the examiner's decision of  
rejection or application converted  
registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against  
examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

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[Claim(s)]

[Claim 1] The dice which covers predetermined resin to the striatum (102) it runs (101), The resin tank of the couple which held said resin in the state of application of pressure in order to supply said resin consumed for this dice (101) (1-2), The pressure tank which sends the gas of nitrogen and others into these resin tanks (1-2), and the electro-magnetic valve prepared in the free passage way (61) open for free passage (6), The buffer tank formed in a part of supply way of the resin supplied to said dice (101) from said resin tank (3), The weight detector which detects the resin in this BAFFANKU (3) in weight (4), Application-of-pressure dice equipment for a striatum coat characterized by consisting of control sections (5) which control said electro-magnetic valve (6) according to the weight of the resin in the buffer tank (3) which inputs the signal outputted from this weight detector (4), and is detected based on that signal.

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[Translation done.]

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the application-of-pressure dice equipment for a striatum coat which covers predetermined resin to the striatum under transit, and goes to it.

[0002]

[Description of the Prior Art] In order to carry out coating of the proper resin for a coat to the peripheral face of the wire rod on which a line was drawn, various kinds of coat equipments are proposed and developed.

[0003] For example, as one of such the coat equipment, as shown in drawing 2, it is constituted so that automatic supply of the constant-rate [ every ] resin may be carried out at the optical fiber 102 under transit from the dice 101 which holds predetermined UV resin (this is abbreviated to resin below) 100. Moreover, since it naturally decreases to it as the resin held in that dice 101 is supplied to this coating equipment, the proper means 103, for example, a liquid level sensor, is installed, if the resin to hold falls to predetermined level, a metering pump 104 will be operated and that resin will be supplied to predetermined level.

[0004]

[Problem(s) to be Solved by the Invention] If it is in such coat equipment, as shown, for example in drawing 3, at the time of actuation initiation of coat actuation (motor) As shown in time amount (that is,  $t_0$  thru/or  $t_1$ ) until linear velocity starts at a predetermined rate ( $v$ ), and drawing 4 Until the outer-diameter dimension of the covered wire rod is smaller than a certified value and linear velocity becomes zero at the time of a halt of an activity (motor) The outer-diameter dimension of the covered wire rod has produced the inconvenience that it is uneconomical and there is much futility, such as presenting fluctuation and wandering, such as becoming larger than an optimum value, and disposing, without the ability using it as a product about these parts.

[0005] Then, this invention aims at offering the application-of-pressure dice equipment for a striatum coat without a possibility of bringing fluctuation to coat thickness, even if it can always cover resin with fixed film pressure in view of the above-mentioned situation to the striatum it runs, for example, changes die pressure by the change of a service tank.

[0006]

[Means for Solving the Problem] Namely, the dice with which this invention covers predetermined resin to the striatum under transit, The resin tank of the couple which held said resin in the state of application of pressure in order to supply said resin consumed for this dice, The pressure tank which sends the gas of nitrogen and others into these resin tanks, and the electro-magnetic valve prepared in the free passage way open for free passage, The buffer tank formed in a part of supply way of the resin supplied to said dice from said resin tank, It consists of control sections which control said

electro-magnetic valve according to the weight of the resin in the buffer tank which inputs the signal which outputs the resin in this BAFFANKU from the weight detector detected in weight, and this weight detector, and is detected based on that signal.

[0007]

[Function] In this invention, when a control section inputs the signal outputted from a weight detector and there is less weight of the resin which detected the weight of the resin in a buffer tank based on that signal, and that control section detected than the set point (many), the adjustment control of the electro-magnetic valve is changed into a fitness condition so that internal pressure of a resin tank may be increased (reduction).

[0008]

[Example] It explains referring to an accompanying drawing about this invention below. Drawing 1 is the outline block diagram showing the application-of-pressure dice equipment for a striatum coat concerning this example. This application-of-pressure dice equipment for a striatum coat is equipped with the resin tanks 1 and 2 of a couple, the buffer tank 3, the weight detector 4, the control section 5, and the electro-magnetic valve 6. In addition, the sign 7 in drawing is a precision regulator for setting die pressure as the set point (this example 0.4-0.8kg/cm<sup>2</sup>).

[0009] The resin tanks 1 and 2 are for supplying UV resin (it abbreviating to resin below) consumed for a dice 1 in order to apply them to an optical fiber 102, and the resin in the condition of having been pressurized with the application-of-pressure gas (for example, this example nitrogen gas (N<sub>2</sub>)) is stored in the sealed interior. When both these resin tanks 1 and 2 are carried in weighers 11 and 21 and weight falls to the set-up lower limit, and by the control section besides a graphic display Among the closing motion bulbs 12 and 22 prepared in a part of free passage way which results in the buffer tank 3, it is constituted so that the closing motion bulb of the opened direction may close automatically, while the closing motion bulb of the direction closed in any is opened automatically. In addition, as what is used as this application-of-pressure gas, on that resin and chemistry target, it is a thing pile inactive to a lifting about a reaction, and a noncombustible thing is especially desirable.

[0010] The buffer tank 3 is formed in a part of supply way prepared between the resin tanks 1 and 2 and a dice 101 in order to make it supply stably in succession towards a dice 101 from either among the resin tanks 1 and 2 of a couple. And the resin in the condition of having been pressurized with the application-of-pressure gas (for example, this example nitrogen gas (N<sub>2</sub>)) is stored in the sealed interior like the previous resin tanks 1 and 2, and this buffer tank 3 is carried in the weight detector 4 explained below. That is, the precision regulator 7 is buffer minded [ this / 3 ], and it is N<sub>2</sub>. Gas is sent in, and it is constituted so that internal pressure may always hold the set point (for example, this example 2-2.5kg/cm<sup>2</sup>).

[0011] In order to receive makeup continuously, without breaking off the middle from the resin tanks 1 and 2, it is desirable that it is always in fixed level (fixed weight) about the resin of the buffer tank 3 interior, but the weight detector 4 is formed in order to detect this indirectly from weight change, when changing the oil-level level by a certain cause. Moreover, in this weight detector 4, that weight is detected, the detecting signal according to that weight is outputted to a control section 5, the amount of openings of an electro-magnetic valve 6 is suitably controlled by the control signal from this control section 5, and the internal pressure of the resin tanks 1 and 2 is adjusted.

[0012] If the detecting signal outputted from the weight detector 4 is inputted, a control section 5 performs a predetermined operation (subtraction) based on that detecting signal, it will detect fluctuation of the resin weight of the BAFFANKU 3 interior, will output a control signal to an electro-magnetic valve 6 according to this amount of fluctuation, and will perform that control. Moreover, when the buffer tank 3 causes weight fluctuation, this control section 5 determines the correlation function of a proper, or the graph of a proper beforehand, and makes this memorize as

sensitivity information about the relation (property) between the time amount (T) which passes after detecting weight fluctuation of that resin weight (W) to change and this resin before amending and restoring this amount of fluctuation. For example, if the time shift of weight fluctuation is detectable, by controlling the pressure of each resin tanks 1 and 2 from that information, speed of the best internal pressure control which can make weight variation of the buffer tank 3 the minimum, i.e., response actuation of an electro-magnetic valve, can be suitably changed and adjusted now, and it can control by the previous control signal also about this response speed. In addition, this control section 5 can be initialized now also about the internal pressure of each resin tanks 1 and 2.

[0013] The electro-magnetic valve 6 is formed in the middle of the free passage way 61 which opens the resin tanks 1 and 2 and the pressure tank besides a graphic display for free passage, and in order to make the optimal condition adjust suitably the internal pressure of each resin tanks 1 and 2 by control of a control section 5, it is connected with the output of a control section 5.

[0014] Now, although resin is supplied automatically and goes from one of resin tanks among the resin tanks 1 and 2, if according to this example the resin held in this resin tank decreases in number gradually, goes and reaches the minimum weight, it will change to resin supply from another resin tank. That is, resin is supplied towards the buffer tank 3 by opening and closing the closing motion bulbs 12 and 22 suitably from the resin tank of another side held to the limit.

[0015] however -- for example, since internal pressure which adjusted and harmonized is changed to fitness between the resin tanks (dimension) till then by the change of this resin tank (it generally falls more nearly temporarily than the thing before the internal pressure of the resin tank immediately after exchange exchanging) and resin is sent into the buffer tank 3 by before few rather than this resin tank as a result, AUW decreases.

[0016] Then, if this weight lowering is detected, while the weight detector 4 will output a predetermined signal to a control section 5, from this control section 5, a control signal is outputted to an electro-magnetic valve 6. Therefore, an electro-magnetic valve 6 operates according to the detected weight, and it regulates automatically so that the internal pressure of the resin tank under resin supply may be increased to a fitness value. By this, the thickness of the resin by which coating is carried out can be held in general uniformly to the optical fiber 102.

[0017]

[Effect of the Invention] If a control section inputs the signal outputted from a weight detector according to this invention as explained above When changing the weight of the resin which detected the weight of the resin in a buffer tank based on the signal, and the control section detected from the set point Adjustment control of the electro-magnetic valve is carried out, the modification accommodation of the internal pressure of a resin tank is changed into a fitness condition, since resin can always be held and held on fixed level (weight) at a buffer tank, the coat of resin is always attained by fixed thickness at striatum, and what has high dependability can be realized.

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TECHNICAL FIELD

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[Industrial Application] This invention relates to the application-of-pressure dice equipment for a striatum coat which covers predetermined resin to the striatum under transit, and goes to it.

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PRIOR ART

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[Description of the Prior Art] In order to carry out coating of the proper resin for a coat to the peripheral face of the wire rod on which a line was drawn, various kinds of coat equipments are proposed and developed.

[0003] For example, as one of such the coat equipment, as shown in drawing 2, it is constituted so that automatic supply of the constant-rate [ every ] resin may be carried out at the optical fiber 102 under transit from the dice 101 which holds predetermined UV resin (this is abbreviated to resin below) 100. Moreover, since it naturally decreases to it as the resin held in that dice 101 is supplied to this coating equipment, the proper means 103, for example, a liquid level sensor, is installed, if the resin to hold falls to predetermined level, a metering pump 104 will be operated and that resin will be supplied to predetermined level.

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EFFECT OF THE INVENTION

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[Effect of the Invention] If a control section inputs the signal outputted from a weight detector according to this invention as explained above When changing the weight of the resin which detected the weight of the resin in a buffer tank based on the signal, and the control section detected from the set point Adjustment control of the electro-magnetic valve is carried out, the modification accommodation of the internal pressure of a resin tank is changed into a fitness condition, since resin can always be held and held on fixed level (weight) at a buffer tank, the coat of resin is always attained by fixed thickness at striatum, and what has high dependability can be realized.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] If it is in such coat equipment, as shown, for example in drawing 3, at the time of actuation initiation of coat actuation (motor) As shown in time amount (that is,  $t_0$  thru/or  $t_1$ ) until linear velocity starts at a predetermined rate ( $v$ ), and drawing 4 Until the outer-diameter dimension of the covered wire rod is smaller than a certified value and linear velocity becomes zero at the time of a halt of an activity (motor) The outer-diameter dimension of the covered wire rod has produced the inconvenience that it is uneconomical and there is much futility, such as presenting fluctuation and wandering, such as becoming larger than an optimum value, and disposing, without the ability using it as a product about these parts.

[0005] Then, this invention aims at offering the application-of-pressure dice equipment for a striatum coat without a possibility of bringing fluctuation to coat thickness, even if it can always cover resin with fixed film pressure in view of the above-mentioned situation to the striatum it runs, for example, changes die pressure by the change of a service tank.

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MEANS

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[Means for Solving the Problem] Namely, the dice with which this invention covers predetermined resin to the striatum under transit, The resin tank of the couple which held said resin in the state of application of pressure in order to supply said resin consumed for this dice, The pressure tank which sends the gas of nitrogen and others into these resin tanks, and the electro-magnetic valve prepared in the free passage way open for free passage, The buffer tank formed in a part of supply way of the resin supplied to said dice from said resin tank, It consists of control sections which control said electro-magnetic valve according to the weight of the resin in the buffer tank which inputs the signal which outputs the resin in this BAFFANKU from the weight detector detected in weight, and this weight detector, and is detected based on that signal.

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OPERATION

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[Function] In this invention, when a control section inputs the signal outputted from a weight detector and there is less weight of the resin which detected the weight of the resin in a buffer tank based on that signal, and that control section detected than the set point (many), the adjustment control of the electro-magnetic valve is changed into a fitness condition so that internal pressure of a resin tank may be increased (reduction).

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EXAMPLE

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[Example] It explains referring to an accompanying drawing about this invention below. Drawing 1 is the outline block diagram showing the application-of-pressure dice equipment for a striatum coat concerning this example. This application-of-pressure dice equipment for a striatum coat is equipped with the resin tanks 1 and 2 of a couple, the buffer tank 3, the weight detector 4, the control section 5, and the electro-magnetic valve 6. In addition, the sign 7 in drawing is a precision regulator for setting die pressure as the set point (this example 0.4-0.8kg/cm<sup>2</sup>).

[0009] The resin tanks 1 and 2 are for supplying UV resin (it abbreviating to resin below) consumed for a dice 1 in order to apply them to an optical fiber 102, and the resin in the condition of having been pressurized with the application-of-pressure gas (for example, this example nitrogen gas (N<sub>2</sub>)) is stored in the sealed interior. When both these resin tanks 1 and 2 are carried in weighers 11 and 21 and weight falls to the set-up lower limit, and by the control section besides a graphic display Among the closing motion bulbs 12 and 22 prepared in a part of free passage way which results in the buffer tank 3, it is constituted so that the closing motion bulb of the opened direction may close automatically, while the closing motion bulb of the direction closed in any is opened automatically. In addition, as what is used as this application-of-pressure gas, on that resin and chemistry target, it is a thing pile inactive to a lifting about a reaction, and a noncombustible thing is especially desirable.

[0010] The buffer tank 3 is formed in a part of supply way prepared between the resin tanks 1 and 2 and a dice 101 in order to make it supply stably in succession towards a dice 101 from either among the resin tanks 1 and 2 of a couple. And the resin in the condition of having been pressurized with the application-of-pressure gas (for example, this example nitrogen gas (N<sub>2</sub>)) is stored in the sealed interior like the previous resin tanks 1 and 2, and this buffer tank 3 is carried in the weight detector 4 explained below. That is, the precision regulator 7 is buffer minded [ this / 3 ], and it is N<sub>2</sub>. Gas is sent in, and it is constituted so that internal pressure may always hold the set point (for example, this example 2-2.5kg/cm<sup>2</sup>).

[0011] In order to receive makeup continuously, without breaking off the middle from the resin tanks 1 and 2, it is desirable that it is always in fixed level (fixed weight) about the resin of the buffer tank 3 interior, but the weight detector 4 is formed in order to detect this indirectly from weight change, when changing the oil-level level by a certain cause. Moreover, in this weight detector 4, that weight is detected, the detecting signal according to that weight is outputted to a control section 5, the amount of openings of an electro-magnetic valve 6 is suitably controlled by the control signal from this control section 5, and the internal pressure of the resin tanks 1 and 2 is adjusted.

[0012] If the detecting signal outputted from the weight detector 4 is inputted, a control section 5 performs a predetermined operation (subtraction) based on that detecting signal, it will detect fluctuation of the resin weight of the BAFFANKU 3 interior, will output a control signal to an electro-magnetic valve 6 according to this amount of fluctuation, and will perform that control.

Moreover, when the buffer tank 3 causes weight fluctuation, this control section 5 determines the correlation function of a proper, or the graph of a proper beforehand, and makes this memorize as sensitivity information about the relation (property) between the time amount (T) which passes after detecting weight fluctuation of that resin weight (W) to change and this resin before amending and restoring this amount of fluctuation. For example, if the time shift of weight fluctuation is detectable, by controlling the pressure of each resin tanks 1 and 2 from that information, speed of the best internal pressure control which can make weight variation of the buffer tank 3 the minimum, i.e., response actuation of an electro-magnetic valve, can be suitably changed and adjusted now, and it can control by the previous control signal also about this response speed. In addition, this control section 5 can be initialized now also about the internal pressure of each resin tanks 1 and 2.

[0013] The electro-magnetic valve 6 is formed in the middle of the free passage way 61 which opens the resin tanks 1 and 2 and the pressure tank besides a graphic display for free passage, and in order to make the optimal condition adjust suitably the internal pressure of each resin tanks 1 and 2 by control of a control section 5, it is connected with the output of a control section 5.

[0014] Now, although resin is supplied automatically and goes from one of resin tanks among the resin tanks 1 and 2, if according to this example the resin held in this resin tank decreases in number gradually, goes and reaches the minimum weight, it will change to resin supply from another resin tank. That is, resin is supplied towards the buffer tank 3 by opening and closing the closing motion bulbs 12 and 22 suitably from the resin tank of another side held to the limit.

[0015] however -- for example, since internal pressure which adjusted and harmonized is changed to fitness between the resin tanks (dimension) till then by the change of this resin tank (it generally falls more nearly temporarily than the thing before the internal pressure of the resin tank immediately after exchange exchanging) and resin is sent into the buffer tank 3 by before few rather than this resin tank as a result, AUV decreases.

[0016] Then, if this weight lowering is detected, while the weight detector 4 will output a predetermined signal to a control section 5, from this control section 5, a control signal is outputted to an electro-magnetic valve 6. Therefore, an electro-magnetic valve 6 operates according to the detected weight, and it regulates automatically so that the internal pressure of the resin tank under resin supply may be increased to a fitness value. By this, the thickness of the resin by which coating is carried out can be held in general uniformly to the optical fiber 102.

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[Translation done.]

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The outline block diagram of the application-of-pressure dice equipment for a striatum coat concerning this invention.

[Drawing 2] The outline block diagram showing conventional-resin coat equipment.

[Drawing 3] The graph which shows the time shift of the linear velocity of striatum.

[Drawing 4] The graph which shows wandering of an outer-diameter dimension when the resin coat equipment of a conventional type is used.

[Description of Notations]

- 1 Two Resin tank
- 3 Buffer Tank
- 4 Weight Detector
- 5 Control Section
- 6 Electro-magnetic Valve
- 7 Precision Regulator
- 101 Dice
- 102 Optical Fiber (Striatum)

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[Translation done.]

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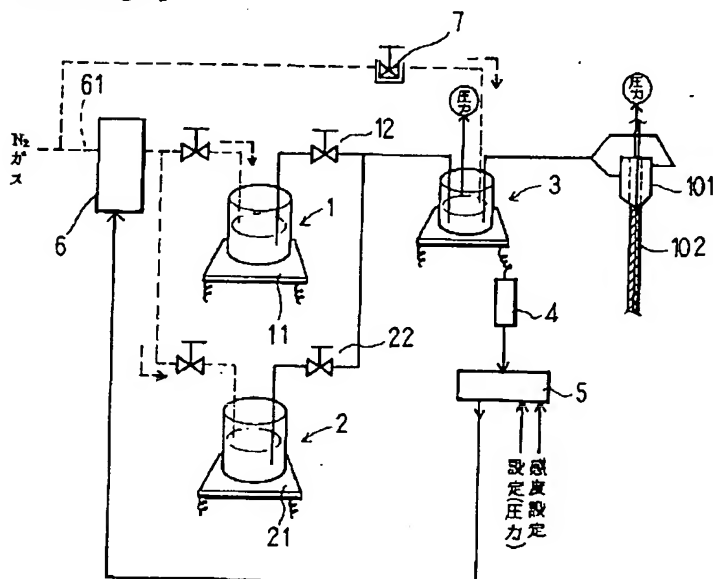
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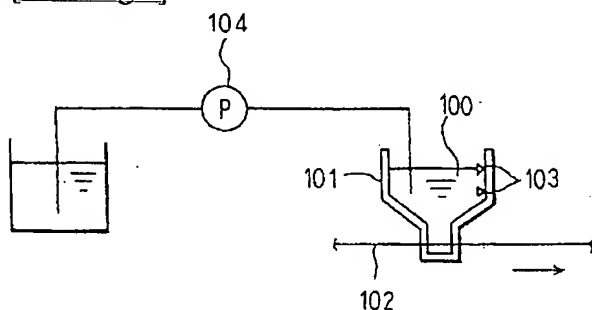
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## DRAWINGS

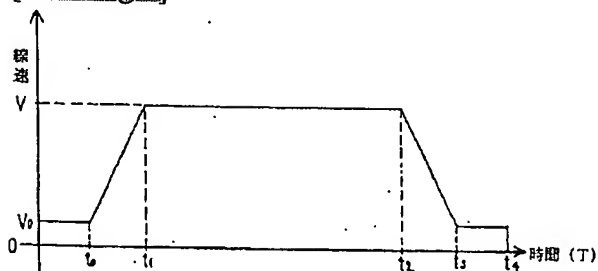
[Drawing 1]



[Drawing 2]

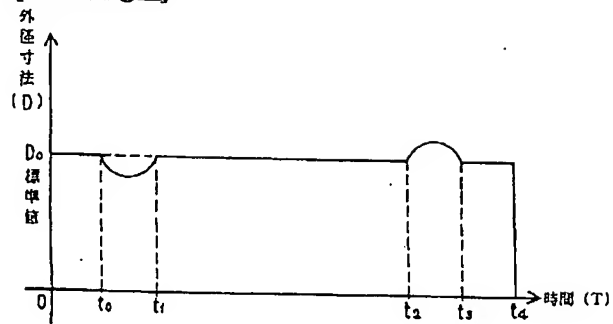


[Drawing 3]





[Drawing 4]



[Translation done.]